

# *Let's Talk: Communication Skills for Statisticians*

Session #1: Asking Good Questions

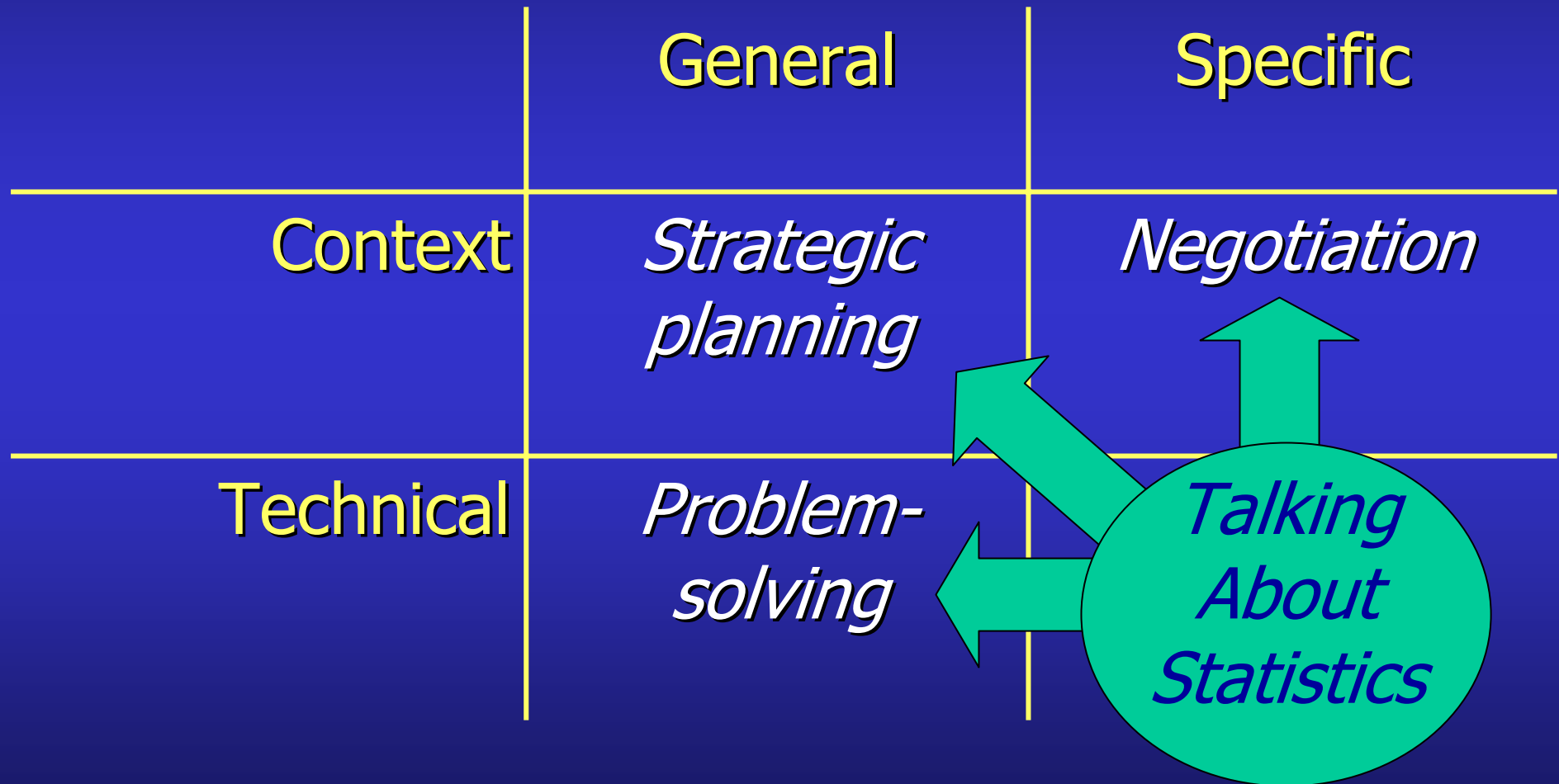
Session #2: Talking about Statistics

Session #3: Presenting Statistics in a Multi-Disciplinary Setting

# Core Competency: Oral Communication

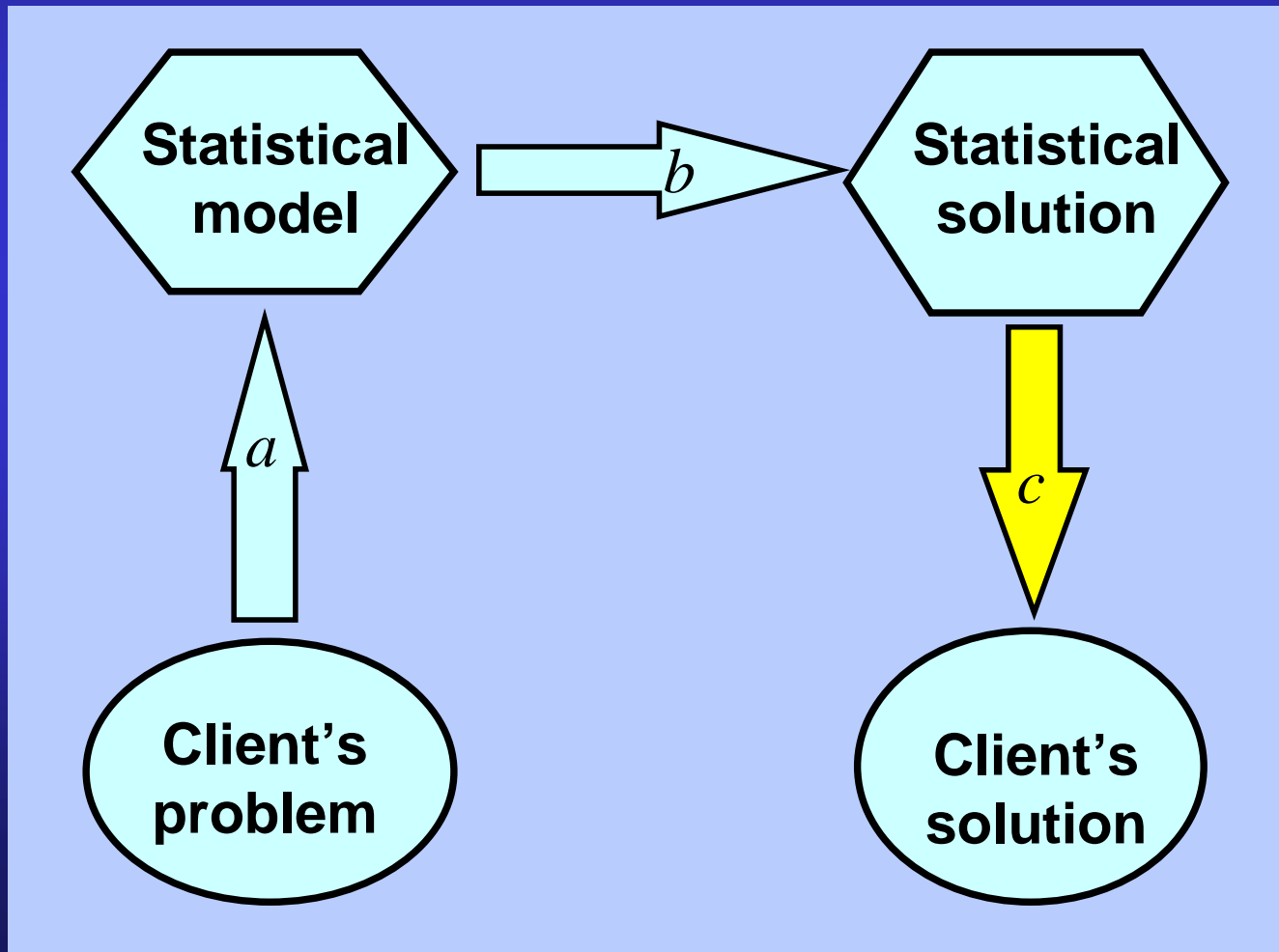
- Tailors communication to the level and experience of the audience
- Utilizes strong listening skills to formulate direct, responsive answers to questions
- Effectively communicates complex ideas using analogies, visual and other techniques
- Creatively identifies and utilizes effective communication channels and methods

# What Do You Need to Discuss?



# Core Issues in Statistical Consulting

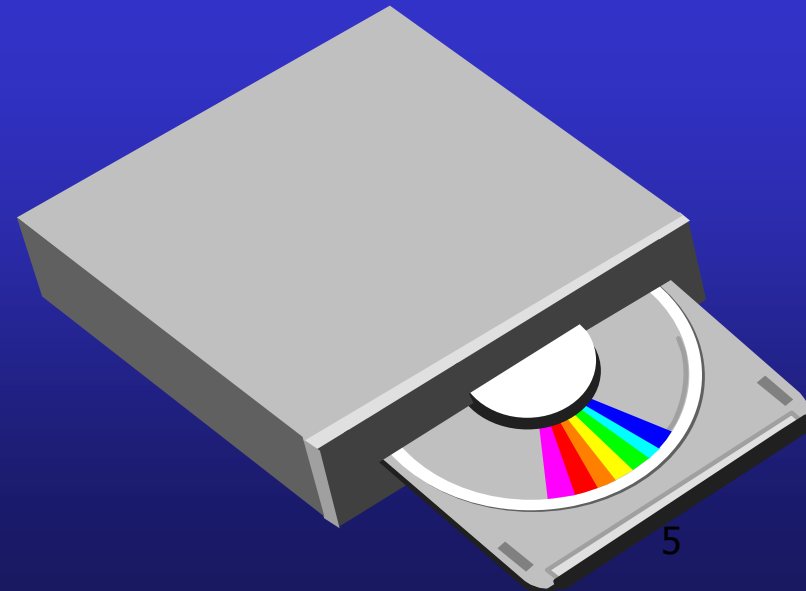
## 1. Connecting the statistical approach to the discipline-specific project / problem



# How to Talk About Statistics *(Not!)*

Video Segment 6: “Delivering Statistical Information”

*Why was the statistician not communicating effectively?*



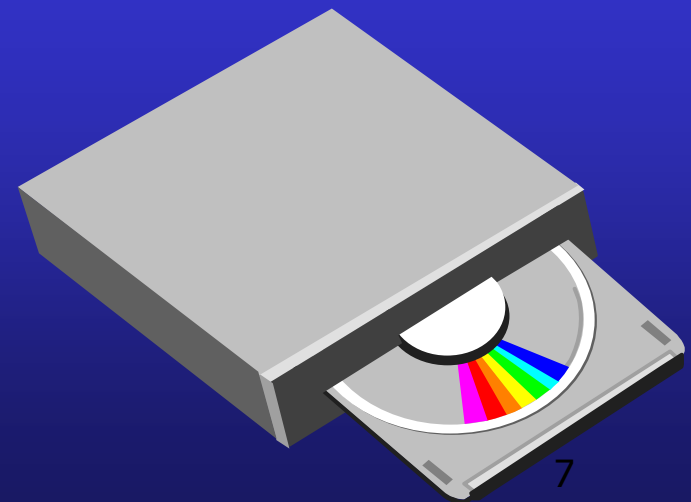
# How to Talk About Statistics *(Not)!*

- Consultant used passive learning techniques (lecturing)
- Consultant did not explain statistical terms
- Consultant assumed client was an “auditory learner”

# How to Talk About Statistics *(Yes!)*

Video Segment 7: “Delivering Statistical Information”

*What makes this session more effective?*



# How to Talk About Statistics *(Yes!)*

- Consultant actively engaged the client in discussion
- Consultant made sure client understood the statistical terms
- Consultant identified client as a visual and kinesthetic learner

# Learning Styles

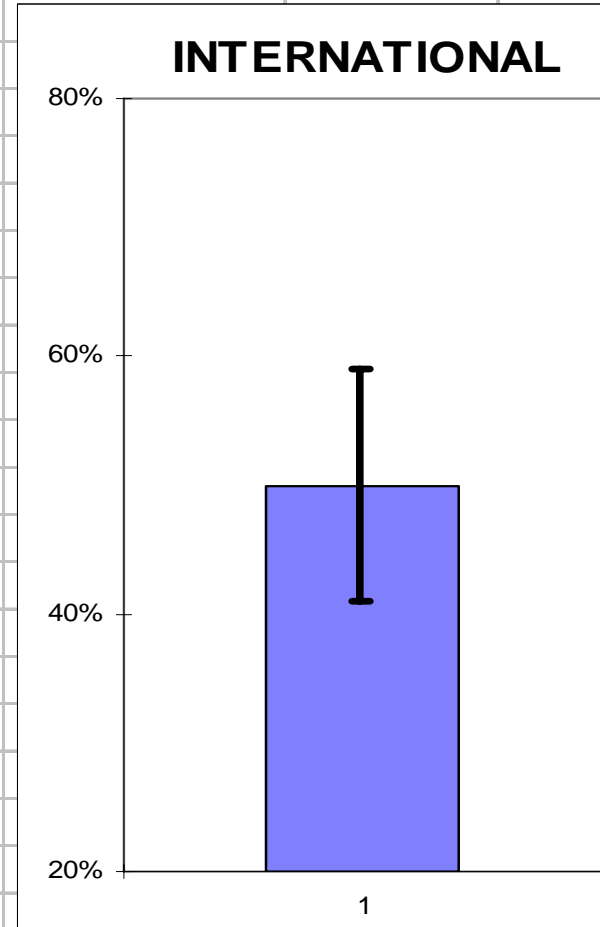
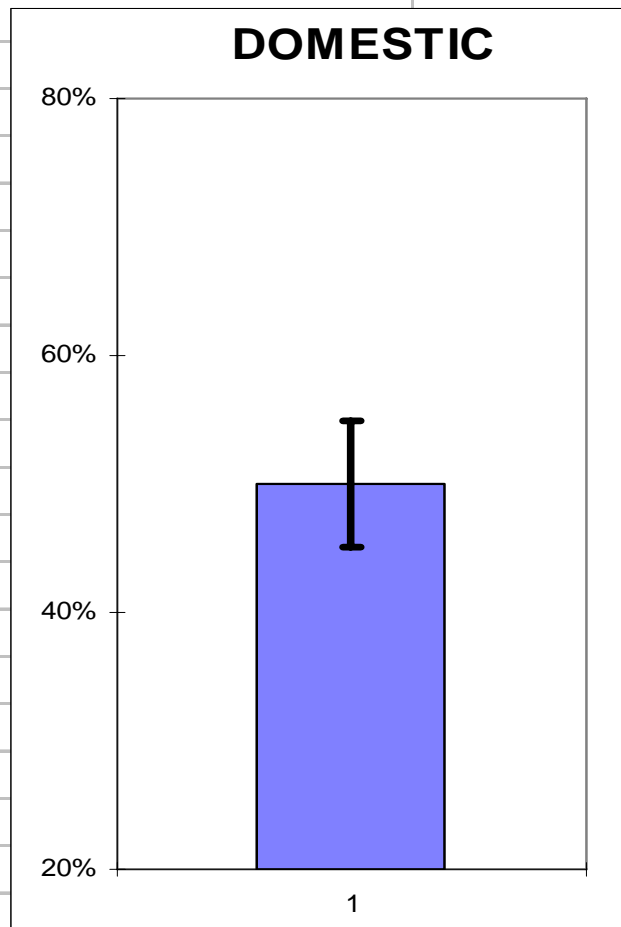
- **Visual:** Learning by reading and by studying summary tables, diagrams, figures, flow charts
- **Auditory:** Learning by listening and talking about statistical concepts
- **Kinesthetic:** Learning through hands-on experiences such as gathering data, working with statistical software, manipulating dynamic displays of data

# A Dynamic Example

	Populations	Population size	Proportion to sample	Number going out	Expected in return
<b>1</b>	<b>MAIN SAMPLE</b>				
	<i>DOMESTIC</i>	38000	3.5%	1330	399
	<i>INTERNATIONAL</i>	2000	3.5%	70	21
		40000	3.5%	1400	420
<b>2</b>	<b>SUB SAMPLE</b>				
	<i>INTERNATIONAL</i>	2000	15.0%	300	90
<b>3</b>	<b>SUMMARY</b>			<b>OUT</b>	<b>IN</b>
	<i>DOMESTIC</i>	38000	3.5%	1330	399
	<i>INTERNATIONAL</i>	2000	18.5%	370	111
			<b>TOTALS</b>	<b>1700</b>	<b>510</b>

# A Dynamic Example

If 50% of respondents reply "YES", what is the precision?

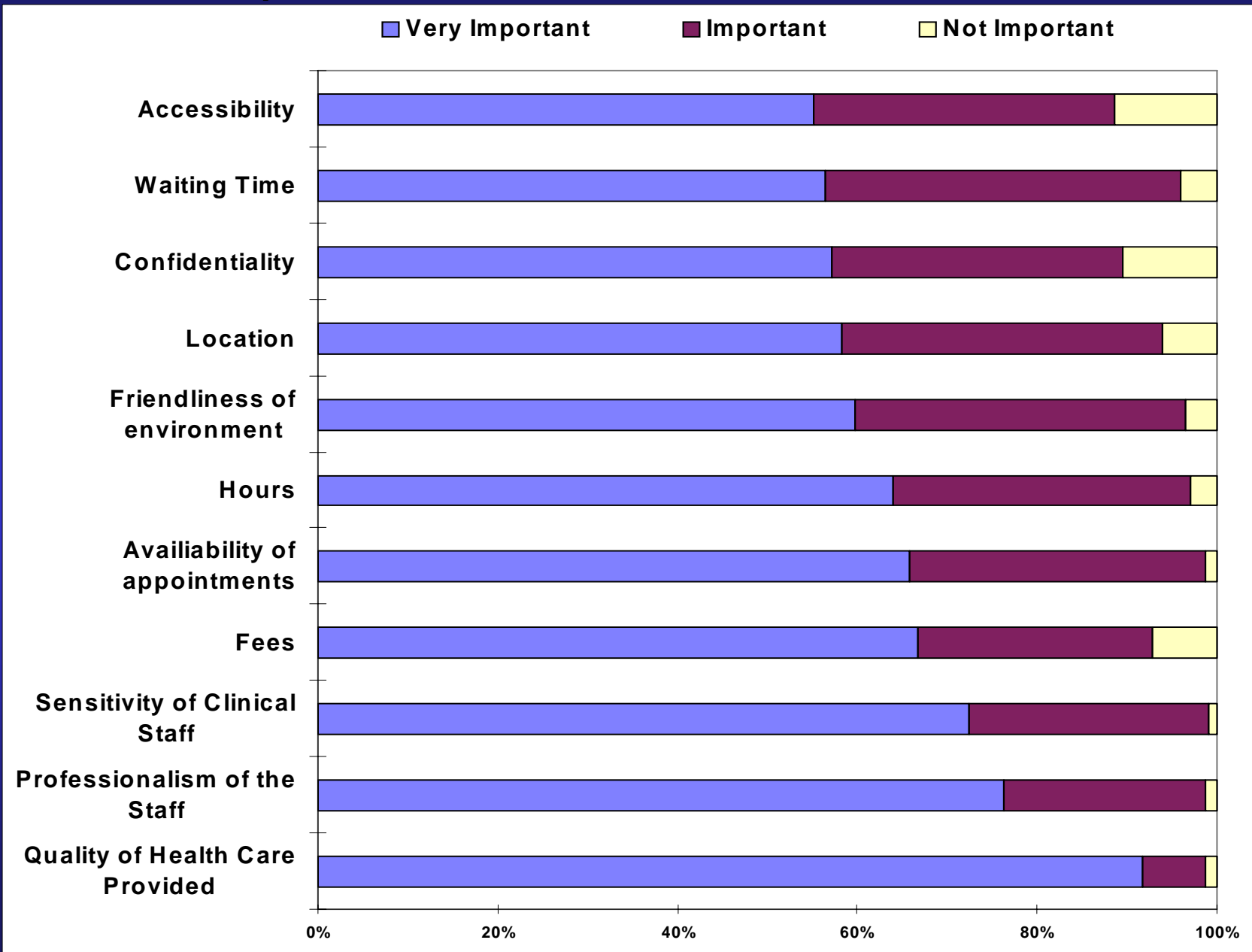


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# Consider the Client's Frame of Reference

- What is the client's statistical background?  
(Be cautious about making assumptions)
- How is the client accustomed to having this type of statistical information presented?
- What statistical terms and concepts are typically used in the client's discipline?

# Importance Of Health Care Attributes



# Pay Attention to the Client's Responses

## ➤ Not Good:

- Blank looks
- Body language showing discomfort or inattention

## ➤ Good:

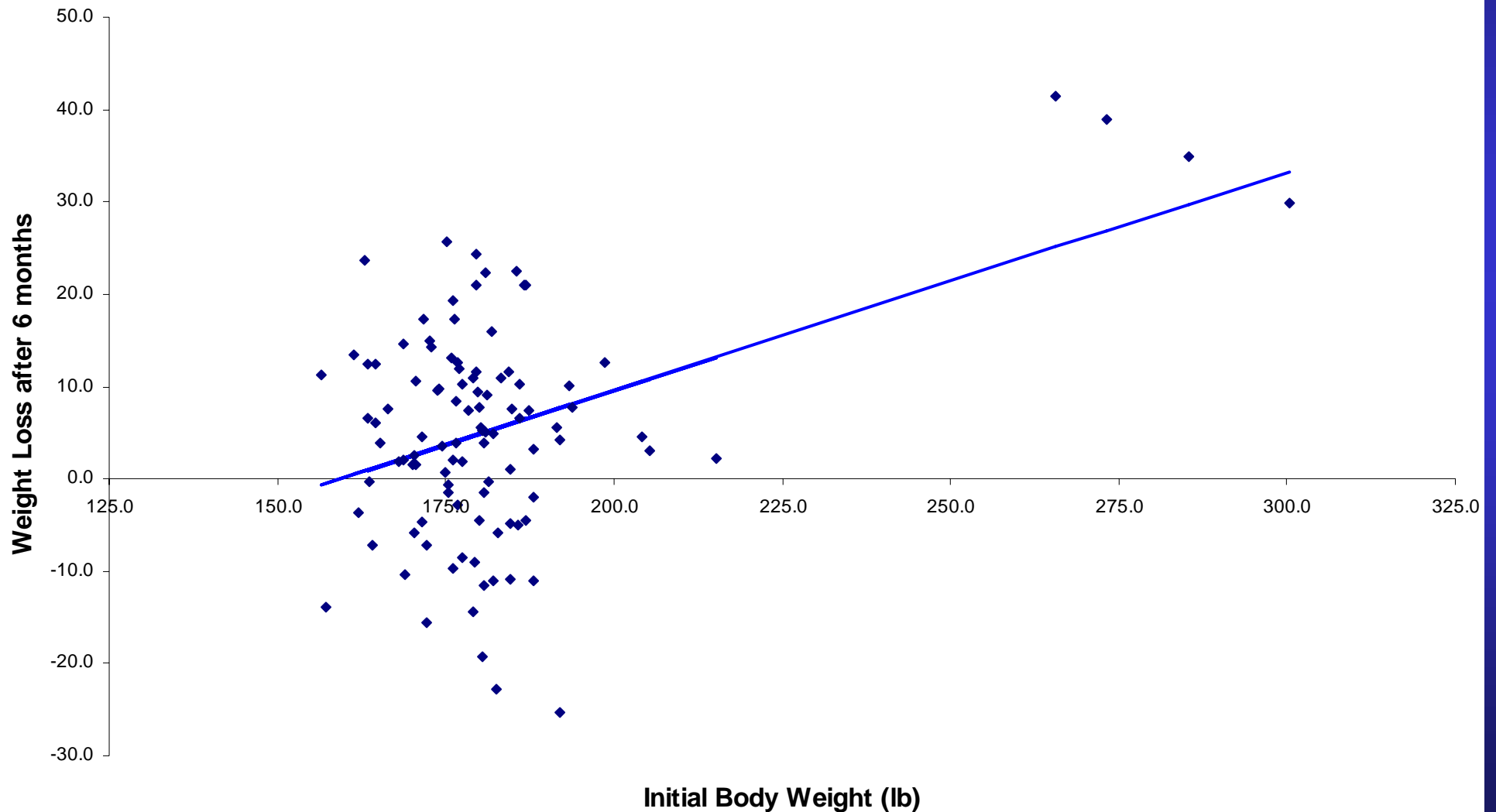
- Interacting with you, asking questions
- Using her own terms to reflect your statistical discussion

# Talking About Statistics

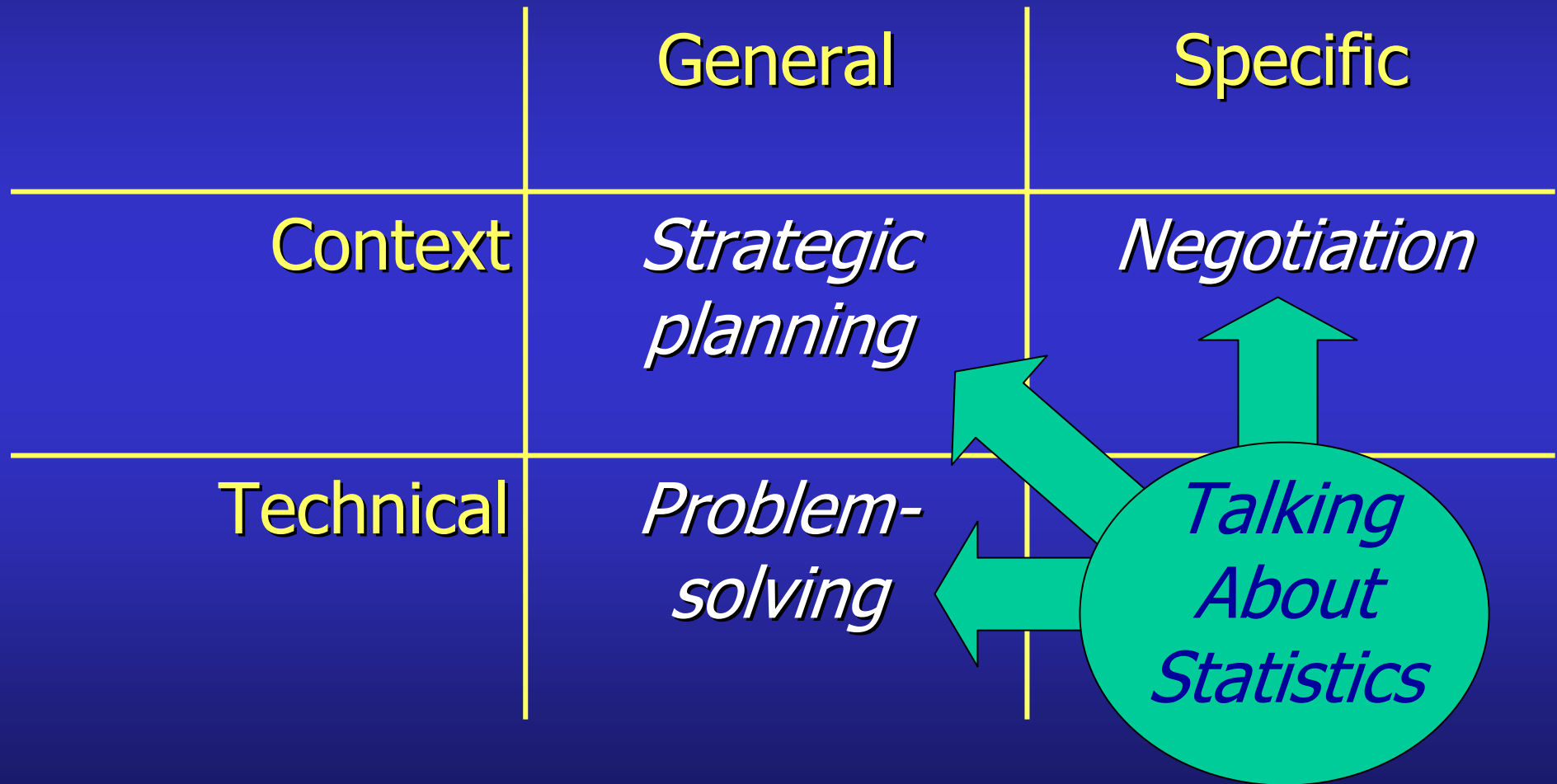
**The scenario:** A client has come to see you after conducting a pilot study with a new weight loss program. All of the subjects were assigned to the program, and their body weights were measured at the start of the study and after 6 months. There were 200 subjects to start out with, and 104 subjects finished. The client has plotted the results from the 104 “completers” and fitted a regression line (see the chart on the next slide). He does not have much experience with statistics and would like your help in interpreting these results.

**Activity:** Consider how you would describe your perspective about the limitations of this study and the analysis that the client has applied. What visual and/or dynamic resources could you use to support your discussion?

# Weight Loss Study Results



# What Issues Do You Need to Discuss for the Weight Loss Study?



# For Further Training on this Topic

- Communication skills / presentation skills course
- Record your meetings / obtain feedback